

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-27 were pending at the time of the outstanding Office Action. Claims 1, 10, 15, and 21 have been amended. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier. Thus, claims 1-27 are now pending in this application.

Prior Art Rejection:

Claims 1, 3-8, 15-19, 21, and 23-27 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nose et al. (hereinafter “Nose”). Claims 2, 9-14, 20, and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nose in view of Azuma et al. (hereinafter “Azuma”). Applicants respectfully traverse these rejections for at least the following reasons.

Claims 1, 3-8, 15-19, 21, and 23-27 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nose. Nose is directed partly towards a probe unit. This probe unit includes a lower electrode with an etched support to form a cavity, and an upper electrode, insulating film and a probe electrode formed in the shape of a bridge above the cavity. The probe is driven by an electrostatic force, which applies voltage to the lower and upper electrode. (page 6, lines 1-15) This is in stark contrast to the instant invention, in which an electrostatic actuator includes two electrodes “wherein only one of the first and second electrodes is configured to have a voltage selectively applied thereto to attract the first and second electrodes toward one another and move the probe away from the medium”. (Claim 1, similar language in claims 10, 15, and 21). The independent claims very clearly state that only one of the electrodes will be configured to have voltage applied thereto to cause a specific reaction (attraction of the electrodes and movement of the probe). The Examiner asserts that the a configuration allowing for application of voltage to both electrodes in Nose is equivalent to the specific configuration of only one electrode to have voltage applied thereto in the instant invention. Similarly, the application of voltage to two electrodes is not

equivalent or even similar to the application of voltage to specifically only one electrode because the outcome caused from such an application differs. As shown above, Nose fails to teach an electrostatic actuator including two electrodes wherein “one of the first and second electrodes being configured to have a voltage selectively applied thereto to attract the first and second electrodes toward one another and move the probe away from the medium”, a critical feature of each of the independent claims. If this rejection is maintained, the examiner is respectfully requested to point out where this feature is disclosed in Nose.

The dependent claims are also patentable for at least the same reasons as the independent claims on which they ultimately depend. In addition, they recite additional patentable features when considered as a whole. As mentioned above, Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

Claims 2, 9-14, 20, and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nose in view of Azuma. Azuma in no way makes up for the deficiencies of Nose as described above. Azuma appears to be directed towards a probe and information recording and reproduction apparatus, and is a much more involved apparatus than that of Nose or the instant invention. In order to record information, Azuma applies a voltage to the gate of the transistor of the multiple probes of the apparatus by means of a switch control circuit. A switch mechanism is turned to the grounding side by the switch control circuit, and then is turned to the recording voltage application side by the same switch control circuit. The recording voltage application circuit then applies a recording between the source of each of the probes and the recording medium produces a recording bit according to an output signal of a computer (column 18, lines 19-33). This is in stark contrast to an electrostatic actuator including two electrodes, where only one of the two nodes is configured to receive an applied voltage, and wherein the applied voltage causes the electrodes to be attract towards one another and move the probe away from a medium. Azuma includes many more electrodes and probes, and has a much more complicated system to effect probe movement.

As shown above, Nose fails to teach electrostatic actuator including two electrodes wherein “one of the first and second electrodes being configured to have a voltage selectively applied thereto to attract the first and second electrodes toward one another and move the probe away from the medium”. Azuma does not teach or suggest electrostatic actuator

including two electrodes such that only one of the two electrodes is configured to have a voltage applied thereto to cause movement of the probe away from the medium. Given the teachings of Azuma, it is clear that Azuma does not make up for the deficiencies of Nose as shown above.

As shown, Azuma does not teach or disclose all of the features of the independent claim, specifically failing to disclose electrostatic actuator including two electrodes wherein “one of the first and second electrodes being configured to have a voltage selectively applied thereto to attract the first and second electrodes toward one another and move the probe away from the medium”. As shown above, Nose also fails to teach this feature of the independent claims. Thus, Azuma, either alone or in combination with Nose, would also fail to teach all of the limitations of the independent claims. If this rejection is maintained, the examiner is respectfully requested to point out where these features are disclosed in either Nose or Azuma.

Further, the outstanding Office Action asserts that “it would have been obvious to a person of ordinary skill art to modify the actuator of Nose to produce a capacitance as to vary the displacement of the probe with respect the medium. The motivation for doing so would have been to control the amount of current in the actuator.” (page 6, lines 3-7). However, it is respectfully submitted that the combination of the teachings of Nose with those of Azuma would not be obvious to one skilled in the art.

Azuma integrates a much more complex system that enable the usage of gates, transistors, and so forth. This much more complex system would not fit within the confines of Nose. For example, Azuma teaches detecting of a change in capacitance by utilizing an electroconductive sensing needle. Nose does not teach the usage of such a sensing needle, and further, would not incorporate such a needle (or the other mechanisms present in Azuma but lacking in Nose) because Nose specifically states that an “object of the present invention is to providing a scanning type of tunnel current detecting device with is compact” (column 2, lines 55-60). Thus, Nose would not incorporate any extra hardware or utility that was not necessary to obtain the goals of his invention (“a probe unit which can be prepared with high precision without occurrence of warpage and torsion in production”) (column 2, lines 50-53).

Consequently, the combination of Azuma with Nose is improper and the motivation to do so is lacking. Further, the primary reference of the combination teaches away from

inclusion of any mechanisms or hardware that would unnecessarily complicate a compact invention. Thus, reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion

In view of the foregoing amendments and remarks, applicants believe that the application is now in condition for allowance. An indication of the same is respectfully requested. If there are any questions regarding the application, the examiner is invited to contact the undersigned attorney at the local telephone number below.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 C.F.R. § 1.25. Additionally, charge any fees to Deposit Account 08-2025 under 37 C.F.R. § 1.16 through § 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees.

Respectfully submitted,

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